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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,066	11/17/2003	Timothy O'Brien	022438.45514	6392

66981 7590 04/07/2009

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EXAMINER	
REDDIG, PETER J	
ART UNIT	PAPER NUMBER
1642	
MAIL DATE	DELIVERY MODE
04/07/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/715,066	O'BRIEN ET AL.	
	Examiner	Art Unit	
	PETER J. REDDIG	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,21,22 and 27-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2, 21, 22, and 27-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The Amendment filed December 12, 2008 in response to the Office Action of August 8, 2008 is acknowledged and has been entered. New claim 30 has been added. Claims 2, 21, 22, and 27-30 are currently being examined.

Declaration

2. The Declaration of O'Brien et al. filed on December 11, 2008 under 37 CFR 1.131 has been considered but is ineffective to overcome the WO 2001/51513 (Algate et al. 19 July 2001) reference. The WO 2001/51513 (Algate et al. 19 July 2001) reference is a statutory bar under 35 U.S.C. 102(b) and thus cannot be overcome by an affidavit or declaration under 37 CFR 1.131, see below.

Rejections Maintained

Priority

3. The priority date is or remains 11/17/2003 for claims 21, 22, 28 and 30 because, as previously set forth, the claims as currently constituted recite isolated nucleic molecules that are adapted to express and encode residues 1-10,427 of SEQ ID NO: 5 and a review of the parent Applications does not reveal the claimed limitations, see the written description rejection in section 4 below. The priority date for claims 2, 27 and 29 is or remains November 15, 2002 because the claims encompass a nucleic acid comprising SEQ ID NO: 4, for which support is found in application 60/427,045, SEQ ID NO: 314, as previously set forth.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 21, 22, and 28 remain rejected and claim 30 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement for the reasons set forth in the Office Action of August 8, 2008, section 6- pages 5-10.

Examiner Argued:

In regard to claim 27, the limitation of an isolated nucleic acid molecule encoding residues 10,432 to 22,152 of SEQ ID NO:5 or a fragment of residues 10,432 to 22,152 of SEQ ID NO:5; wherein the isolated nucleic acid molecule is an expression vector and is adapted to express in a cell residues 10,432 to 22,152 of SEQ ID NO:5 or a fragment of residues 10,432 to 22,152 of SEQ ID NO:5;wherein the fragment of residues 10,432 to 22,152 of SEQ ID NO:5 is an antigenic fragment that can be used to make monoclonal antibodies that specifically recognize CA125 has no clear support in the specification and the claims as originally filed.

Applicants argue that claim 27 is supported, e.g., by SEQ ID NO: 162 of parent provisional application serial no. 60/427,045, which is identical to residues 10,432-22,152 of SEQ ID NO: 5.

The suggested support is not found persuasive because, although SEQ ID NO: 162 may be identical to residues 10,432-22,152 of SEQ ID NO:5, this polypeptide does not provide support for the genus of claimed nucleic acids encoding or adapted to express the specifically claimed residues of SEQ ID NO: 5 or fragments thereof.

Applicants argue that claim 27 is also supported, e.g., by SEQ ID NOS:34, 36, and 38 in Tables 14, 16, and 18 of parent provisional patent application serial no. 60/299,380, which are disclosed to be the amino terminal domain, repeat domain, and carboxy terminal domain of CA125 and together make residues 10,432-22,152 of SEQ ID NO:5.

The suggested support is not found persuasive because, although SEQ ID NOS:34, 36, and 38 may make residues 10,432-22,152 of SEQ ID NO:5, these individual polypeptides do not provide support for the genus of claimed nucleic acids encoding or adapted to express the specifically claimed residues of SEQ ID NO: 5 or fragments thereof.

Applicants argue that claim 27 is also supported, e.g., by originally filed claims 1, 4, 14, and 15. Originally filed claims 14 and 15 disclose fragments of SEQ ID NO: 5 and antibodies that bind to SEQ ID NO: 5 and fragments thereof.

The suggested support is not found persuasive. Originally filed claims 1, 4, 14, and 15 are drawn to: 1. An isolated nucleic acid molecule encoding CA125. 4. The isolated nucleic acid molecule of claim 2 wherein said molecule is a fragment thereof. 14. A polypeptide with the amino acid sequence selected from the group consisting of: (a) the amino acid sequence set forth in SEQ ID NO: 5; (b) an amino acid sequence having at least 50% sequence identity to said sequence; (c) a conservative variant of an one of (a) to (b); and (d) a fragment of any one of (a) to (c). 15. A purified antibody that selectively binds to an amino acid sequence of the CA125 protein: (a) wherein the amino acid sequence of the CA125 protein comprises the amino acid sequence set forth in SEQ ID NO: 5; (b) an amino acid sequence having at least 50% sequence identity to said sequence; (c) a conservative variant of any one of (a) to (b); and (d) a fragment of any one of (a) to (c). Originally filed claims 1, 4, 14, and 15 do provide support for or suggest the

genus of claimed nucleic acids encoding or adapted to express the specifically claimed residues of SEQ ID NO: 5 or fragments thereof.

Applicants argue that claim 27 is also supported by provisional patent application serial no. 60/299,380 as follows. Pages 19-20 of provisional patent application serial no. 60/299,380 discloses recombinant domains and epitopes of CA125 and antibodies against recombinant domains. Pages 6-7 of provisional patent application serial no. 60/299,380 disclose isolated nucleic acids and fragments of the nucleic acids isolated, and expressing isolated nucleic acids from vectors. Page 2, first line of the Summary of provisional patent application serial no. 60/299,380 discloses isolating portions of the CA 125 gene. Page 3, lines 5-10 and page 4, line 3 of provisional patent application serial no. 60/299,380 disclose use of recombinant domains, such as individual repeat units, of CA 125. Page 3, lines 15-18 of provisional patent application serial no. 60/299,380 disclose recombinant domains of CA125 encompassing epitope binding sites for murine antibodies. There is thus abundant support for isolated nucleic acids used to express fragments of CA125 that can be used to generate antibodies that recognize CA125.

The suggested support is not found persuasive because the cited passages of application serial no. 60/299,380 do not provide support for or suggest the claimed nucleic acid encoding or adapted to express the specifically claimed residues of SEQ ID NO: 5 or fragments thereof. Given the above the subject matter claimed in claim 27 broadens the scope of the invention as originally disclosed in the specification.

In regard to claim 28 and its dependent claims 21, and 22, the limitation of the isolated nucleic acid molecule is an expression vector and is adapted to express in a cell CA125 (SEQ ID NO:5) or a fragment thereof . . . wherein the isolated nucleic acid molecule encodes residues 1 to 10,431 of SEQ ID NO:5 or a fragment of residues 1 to 10,431 of SEQ ID NO:5 has no clear support in the specification and the claims as originally filed.

Applicants argue that claim 28 is supported, e.g., by SEQ ID NO: 310 of parent provisional patent application serial no. 60/427,045, which is identical to residues 1-10,431 of SEQ Id NO:5.

The suggested support is not found persuasive because, although SEQ ID NO: 310 may be identical to residues 1-10,431 of SEQ ID NO:5, this polypeptide does not provide support for the genus of claimed nucleic acids encoding or adapted to express the specifically claimed residues of SEQ ID NO: 5 or fragments thereof.

Applicants argue that claim 28 is also supported, e.g., by originally filed claims 1, 4, 14, and 15, by SEQ ID NO:5, and by paragraphs [0009], [0011], and [0041] of the specification, and by SEQ ID NOS: 1 and 4. Paragraph [0009] discloses that the extracellular amino terminal domain is encoded by exons 1-9, as set out in SEQ ID NO: 1. It discloses that exon 4 is nucleotides 34575 to 38024 of SEQ ID NO: 1. Paragraphs [0011] and [0041] disclose that the amino terminal extension comprises (is encoded by) four genomic exons [exons 1-4 described in paragraph 0009]. A comparison of the sequence of exon 4 (nucleotides 34575-38024 of SEQ ID NO: 1) and the cDNA of SEQ ID NO: 4 reveals that exon 4 ends at nucleotide 31,485 of SEQ ID NO: 4. A comparison of the sequences of exons 1-4 of SEQ ID NO: 1, the cDNA sequence of SEQ ID NO: 4, and the protein sequence of SEQ ID NO: 5 reveals that exons 1-4 encode residues 1-10,427 of SEQ ID NO: 5. Applicants argue that Claim 21 is supported, e.g., by SEQ ID NO: 1 and paragraph [0009]. Applicants argue that the element of fragments of SEQ ID NO:

5 recognized by an antibody that selectively binds to SEQ ID NO: 5 is supported, e.g., by originally filed claim 15, part (d), and claim 14.

The suggested support is not found persuasive. Originally filed claims 1, 4, 14, and 15 are drawn to: 1. An isolated nucleic acid molecule encoding CA125. 4. The isolated nucleic acid molecule of claim 2 wherein said molecule is a fragment thereof. 14. A polypeptide with the amino acid sequence selected from the group consisting of: (a) the amino acid sequence set forth in SEQ ID NO: 5; (b) an amino acid sequence having at least 50% sequence identity to said sequence; (c) a conservative variant of an one of (a) to (b); and (d) a fragment of any one of (a) to (c). 15. A purified antibody that selectively binds to an amino acid sequence of the CA125 protein: (a) wherein the amino acid sequence of the CA125 protein comprises the amino acid sequence set forth in SEQ ID NO: 5; (b) an amino acid sequence having at least 50% sequence identity to said sequence; (c) a conservative variant of any one of (a) to (b); and (d) a fragment of any one of (a) to (c). Originally filed claims 1, 4, 14, and 15 do provide support for or suggest the claimed nucleic acid encoding or adapted to express the specifically claimed residues of SEQ ID NO: 5 or fragments thereof. Additionally the polypeptide of SEQ ID NO: 5 does not support or suggest the genus of claimed nucleic acids encoding or adapted to express the specifically claimed residues of SEQ ID NO: 5 or fragments thereof. Additionally, the disclosure of the individual exons of CA125 and SEQ ID NO: 4, although exons 1-4 may encode residues 1-10,427 of SEQ ID NO:5, does not support or suggest the genus of claimed nucleic acids encoding or adapted to express the specifically claimed residues of SEQ ID NO: 5 or fragments thereof

Additionally, although an isolated nucleic acid molecule comprising the sequence of SEQ ID NO: 1 in an expression vector would inherently express at least a fragment of residues 1-10,431 of SEQ ID NO:5, there is not inherent support for fragments of SEQ ID NO: 1 encoding and expressing residues 1-10,431 of SEQ ID NO:5 or fragments thereof.

Given the above the subject matter claimed in claims 21, 22 and 28 broadens the scope of the invention as originally disclosed in the specification.

Applicants argue that the Guidelines for Examination of Patent Applications under the 35 U.S.C. 112, ¶ 1, "Written Description" Requirement (66 Fed Register 1099) state: "While there is no *in haec verba* requirement, newly added claim limitations must be supported in the specification through express, implicit, or inherent disclosure" (Id. at p. 1105, column 1).

Applicant argues that the Board of Patent Appeals and Interferences in Ex parte Parks, 30 U.S.P.Q.2d 1234, 1236 (Bd. Pat. App. & Int. 1994) stated:

> Adequate description under the first paragraph of 35 U.S.C. 112 does not require literal support for the claimed invention.... Rather, it is sufficient if the originally filed

> disclosure would have conveyed to one having ordinary skill in the art that, an appellant had possession of the concept of what is claimed. (Emphasis added.)

Applicants argue that the Court of Customs and Patent Appeals held regarding compliance with the written description requirement:

> [T]he disclosure in question must be read in light of the knowledge possessed by those skilled in the art, and that knowledge can be established by affidavits of fact composed by an expert, and by reference to patents and publications available to the public prior to appellant's filing date. In re Lange, 644 F.2d 856, 863 (C.C.P.A. 1981).

Applicants argue that thus, the test for compliance with the written description requirement is whether one of ordinary skill in the art would recognize based on the originally filed disclosure that the inventors were in possession of the concept of what is claimed.

Applicants argue that parent application serial no. 09/965,738 at page 32, lines 10-11 discloses "Antibodies to CA 125 epitopes or newly described potential epitopes." Page 31, lines 27-28 of application serial no. 09/965,738 discloses "recombinant antigen containing the CA125 epitopes or other domains." And page 31, line 30 of application serial no. 09/965,738 discloses "recombinant CA125 epitope domain or other domains or... peptides derived from these domains." "Peptides derived from" CA125 "domains", can only be fragments of CA125. The text at page 31, lines 29-30, and page 32, lines 10-11, is not limited to epitopes and peptides of a particular portion of CA 125. Instead it says "epitope domains or other domains" and "newly discovered potential epitopes," which indicates that peptide fragments of the entire molecule is contemplated - parts of the molecule bound by existing antibodies and other parts, "newly discovered potential epitopes," to which antibodies can be raised.

Applicants argue that the phrases quoted above show that one of ordinary skill in the art would recognize that Applicants were in possession of an expression vector: "Recombinant" peptides, domains, and proteins must be those produced from recombinant nucleic acid. A recombinant nucleic acid that expresses a peptide or protein is an expression vector. The phrases quoted additionally show that one of ordinary skill in the art would recognize that Applicants were in possession of the concept of expressing antigenic fragments of the entire CA125 molecule disclosed: It discloses "recombinant CA125 epitope domain or other domains or... peptides derived from these domains." "[E]pitope domain or other domains" contemplates domains that hold currently recognized epitopes and "other domains," which must refer to the rest of the molecule. It discloses "peptides derived from" the "epitope domains or other domains," so that is a disclosure of peptides covering the whole CA125 molecule. Plainly one of ordinary skill in the art would recognize that Applicants were in possession of an isolated nucleic acid that is an expression vector encoding and expressing any fragment of CA125 that can be used to make antibodies that recognize the fragment.

Applicants argue that in addition, the specific fragment recited in claim 27, resides 10,432 to 22,152 of SEQ ID NO:5, is disclosed in parent application serial no. 09/965,738, filed September 27, 2001, as SEQ ID NO:162. Applicants argue that thus, claim 27 is fully supported by parent application serial no. 09/965,738, filed September 27, 2001.

Applicants argue that claims 2, 21, 22, 28, 29, and 30 are supported by parent international application no. PCT/US02/11734, filed April 12, 2002, which discloses as its SEQ ID NO: 310 the amino terminal extension of CA125 that is residues 1-10,431 of SEQ ID NO: 5.

It also discloses specifically the fragment constituting residues 1-10,427 of SEQ ID NO:5, e.g., in its claim 1, part (b).

Applicants argue that the Examiner has argued only that the exact wording of the present claims is not found in the originally filed specification of the present application. But that is not the test for compliance with the written description requirement. The test is whether one of ordinary skill in the art would recognize based on the originally filed disclosure that the inventors were in possession of the concept of what is claimed. There is no doubt the inventors were in possession of the concept of expression vectors to express recombinant polypeptides comprising antigenic fragments of any part of CA 125, which was disclosed to comprise residues 10,432 to 22,152 of SEQ ID NO: 5 in parent application serial no. 09/965,738, filed September 27, 2001 (SEQ ID NO: 162 of that application) and to additionally comprise residues 1-10,431 of SEQ ID NO: 5 in parent international application no. PCT/US02/11734, filed April 12, 2002. The nucleic acid of SEQ ID NO: 4 is also disclosed in parent international application no. PCT/US02/11734, filed April 12, 2002. Accordingly, claim 27 is supported by parent application serial no. 09/965,738, filed September 27, 2001, and claims 2, 21, 22, 28, and 29 are supported by parent international application no. PCT/US02/11734, filed April 12, 2002.

Applicants argue that since the parent applications clearly convey the concept of expression vectors expressing any antigenic fragment of CA125 as a recombinant polypeptide, and disclose that CA125 comprises residues 10,432 to 22,152 of the present SEQ ID NO: 5 in parent application serial no. 09/965,738, filed September 27, 2001, and that CA125 additionally comprises residues 1-10,431 of SEQ ID NO: 5 in parent international application no. PCT/US02/11734, filed April 12, 2002, claims 2, 21, 22, and 27-29 satisfy the written

description requirement. This also establishes that claim 27 has a priority date of at least September 27, 2001, and claims 2, 21, 22, 28, and 29 have a priority date of at least April 12, 2002.

Applicants' arguments have been considered, but have not been found persuasive. With respect to claim 27, the full scope of claim 27 encompasses SEQ ID NO: 4, which is not found in Application 09/965,738, thus application 09/965,738 does not provide support for claim 27 However, it is noted that the examiner finds support for claims 2, 27 and 29 in Application 60/427,045 which provides support for SEQ ID NO: 4 in SEQ ID NO: 314 and SEQ ID NO: 162 which is the 10,432 to 22,152 region of SEQ ID NO: 5. With regard to claims 21, 22, 28, and 30 Applicants' arguments have been considered, but have not been found persuasive because Applicants base their arguments with regard to these claims and residues 1-10,431 of SEQ ID NO:5 on PCT/US02/11734 and the instant application has not claimed priority to or incorporated by reference PCT/US02/11734. Thus the teachings of PCT/US02/11734 cannot provide written description support for the instant claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 27 remains rejected under 35 U.S.C. 102(b) as being anticipated by Yin and Lloyd (J. Biol. Chem. July 20, 2001. 276: 27371-27375, previously cited) for the reasons previously set forth in section 7-pages 10-13 of the Office Action of August 8, 2008.

Examiner Argued:

Yin and Lloyd teach cloning a C-terminal fragment of CA125 by screening a λZAP cDNA expression library of cDNA from OVCAR3 cells with an antibody to CA125, see Abstract, Materials and Methods, p. 27,372, and the Figures. Given that the λZAP cDNA vectors express fragments of cDNA that are detected by a CA125, Lin and Lloyd teach an isolated expression vector with a fragment of SEQ ID NO: 4 encoding a fragment of CA125 that is adapted to express in a cell a fragment of SEQ ID NO: 5 that is a fragment of residues 10,432 to 22,152 of SEQ ID NO: 5, see appendix 1.

Given that the polynucleotide of the prior art reference encodes a polypeptide that is recognized by an antibody to CA125, it would be expected that the encoded fragment could be used to make monoclonal antibodies that specifically recognize CA125. Although the reference does not specifically state that the isolated CA125 nucleotide fragment can be used to make monoclonal antibodies that specifically recognize CA125, the claimed product appears to be the same as the prior art product, absent a showing of unobvious differences. The office does not have the facilities and resources to provide the factual evidence needed in order to establish that the product of the prior art does not possess the same material, structural and functional characteristics of the claimed product. In the absence of evidence to the contrary, the burden is on the applicant to prove that the claimed product is different from those taught by the prior art and to establish patentable differences. See In re Best 562F.2d 1252, 195 USPQ 430 (CCPA).

Applicants argue that claim 27 has a priority date of at least June 19, 2001. Claim 27 is fully supported by provisional patent application 60/299,380, which was filed June 19, 2001. SEQ ID NOS: 34, 36, and 38 in Tables 14, 16, and 18 of parent provisional patent application serial no. 60/299,380 are disclosed to be the amino terminal domain, repeat domain, and carboxy terminal domain of CA125. Together these make up residues 10,432-22,152 of SEQ ID NO: 5 as is recited in claim 27. Pages 6-7 of provisional patent application serial no. 60/299,380 disclose isolated nucleic acids and fragments of the nucleic acids isolated, and expressing isolated nucleic acids from vectors. Page 2, first line of the Summary of provisional patent application serial no. 60/299,380 discloses isolating portions of the CA125 gene. Page 3, lines 5-10 and page 4, line 3 of provisional patent application serial no. 60/299,380 discloses use of recombinant domains, such as individual repeat units, of CA125. Page 3, lines 11-18 of provisional patent application serial no. 60/299,380 discloses recombinant domains of CA 125 encompassing epitope binding sites for murine antibodies, and use of the recombinant molecules as vaccines or to stimulate patients' immune systems. There is thus abundant support for expressing fragments of CA 125 that can be used to generate antibodies that recognize CA125, as is recited in claim 27. The priority date of claim 27 is thus before Yin and Lloyd, and Yin and Lloyd is not prior art to claim 27.

Applicants arguments have been considered, but have not been found persuasive because, although SEQ ID NOS:34, 36, and 38 may make residues 10,432-22,152 of SEQ ID NO:5, these individual polypeptides do not provide support for the genus of claimed nucleic acids encoding or adapted to express the specifically claimed residues of SEQ ID NO: 5 or fragments thereof. Additionally, the cited passages of application serial no. 60/299,380 do not provide support for or suggest the claimed nucleic acid encoding or adapted to express the specifically claimed residues of SEQ ID NO: 5 or fragments thereof. Thus the priority date of claim 27 is 11/17/2003 as set forth above.

Applicants argue that Yin and Lloyd (3. Biol. Chem., July 20, 2001, 276:27371-27375) states that the authors isolated a 5797-base pair sequence containing a stop codon but no clear 5' initiation sequence (abstract). And it is dated July 20, 2001. The alignment the Examiner shows, however, is with Genbank locus AF361486, which is 21,112 bp (not 5797 bp) and states that it was updated on Sept. 8, 2003.

Applicant submits with this response in an Information Disclosure Statement the revision history of AF361486 and AF361486 version 1 GI: 14971109. The revision history shows that version GI: 14971109 is the earliest version of AF361486 and was submitted on July 20, 2001. In the version submitted on July 20, 2001, AF361486 only had 5797 nucleotides, the same as Yin and Lloyd. The next revision of AF361486 was on Aug. 26, 2003. Version GI: 14971109 encodes an 1890-amino-acid protein that is homologous to the carboxy terminal 1890 amino acid residues of the present SEQ ID NO:5 and appears to be the protein sequence disclosed in Yin and Lloyd. The 21,112 bp sequence of the present AF361486 was only submitted on September 8, 2003.

Applicants arguments have been considered, but have not been found persuasive because the date of publication of the Yin and Lloyd article and AF361486 is July 20, 2001, the priority date of claim 27 is 11/17/2003 as set forth above, and the sequence encodes and is adapted to express a fragment in a cell a fragment of SEQ ID NO: 5 that is a fragment of residues 10,432 to 22,152 of SEQ ID NO: 5.

Applicants argue that claim 27 has a priority date of at least September 27, 2001, since it is supported by parent application serial no. 09/965,738, as discussed above. Yin and Lloyd was published July 20, 2001, less than 1 year before this. Thus, it is not a reference under 35 U.S.C. § 102(b). Provisional patent application 60/299,380, which was filed June 19, 2001, before Yin and Lloyd, also supports claim 27 and therefore antedates Yin and Lloyd. But Applicants will not argue that here. Instead, Applicants point out that provisional patent application serial no. 60/299,380, unarguably discloses reduction to practice of so much of the invention as is disclosed in Yin and Lloyd, and thus it removes Yin and Lloyd as prior art.

Applicants argue that:

All the applicant can be required to show is priority with respect to so much of the claimed invention as the reference happens to show. When he has done that he has disposed of the reference. .. In the case of a reference, it is fundamental that it is valid only for what it discloses and if the applicant establishes priority with respect to that disclosure, and there is no statutory bar, it is of no effect at all. In re Stempel, 241 F.2d 755, 113 U.S.P.Q. 77 (Ct. Customs & Pat. Appeals 1957).

Applicants' arguments have been considered, but have not been found persuasive because Yin and Lloyd is a statutory bar as the priority date of claim 27 is November 15, 2002 because the full scope of the claim encompasses a nucleic acid molecule comprising SEQ ID NO: 4 as set forth above. Thus, because a statutory bar cannot be sworn back of, or before applicant's date of invention, Applicants' reference to *In re Stemple* is not found persuasive, see MPEP 715.

Applicants argue that Yin and Lloyd (J. Biol. Chem., July 20, 2001, 276:27371-27375) states that the authors isolated a 5797-base pair sequence containing a stop codon but no clear 5' initiation sequence (abstract). And it is dated July 20, 2001. The alignment the Examiner shows, however, is with Genbank locus AF361486, which is 21,112 bp (not 5797 bp) and states that it was updated on Sept. 8, 2003.

The protein sequence Yin and Lloyd discloses is homologous with portions of the multiple repeat domain and the carboxy terminal domain of the present SEQ ID NO: 5 from residues 12,070 to 22,152 of SEQ ID NO: 5.

Applicants argue in the footnote on pages 9 and 10

The Yin and Lloyd J. Biol. Chem. paper does not disclose the sequence of the nucleic acid isolated. It states that the nucleic acid sequence they found produced a "deduced amino acid sequence of 1890 amino acids (Fig. 3)" (page 27372 second column) and it shows the deduced amino acid sequence in Fig. 3. Alignment of residue 1-100 of the sequence shown in the top portion of Fig. 3 of Yin and Lloyd with the present SEQ ID NO: 5 shows imperfect homology with several sequences in the multiple repeat region from residues 12,070 to 21,868 of SEQ ID NO: 5. The best homology begins with residue 13721 of SEQ ID NO: 5.

Alignment of the sequence beginning with FNFWSS in the middle portion of Fig. 3 with SEQ ID NO: 5 produced imperfect homology also with several segments of the multiple repeat domain of SEQ ID NO: 5 between residues 12,070 and 21,868 of SEQ ID NO: 5. The best homology begins at residue 15,004 of SEQ ID NO: 5.

Alignment of the last line of sequence in Fig. 3, beginning with VLVDGYSPN with SEQ ID NO: 5 produced alignment beginning at residues 22,076 of SEQ ID NO: 5, in the carboxy terminal domain.

Applicants' arguments have been considered, but have not been found persuasive because claim 27 is drawn to nucleic acids encoding fragments of residues 10, 432 to 22,152 of SEQ ID NO: 5 and as argued by Applicants Yin and Lloyd teach such fragments. Although, the alignment is not perfect, the claims are not so limited, thus the teachings of Yin and Lloyd read on the claimed nucleic acids.

Applicants argue that provisional patent application serial no 60/299,380, filed June 19, 2001, discloses SEQ ID NOS:34, 36, and 38 in Tables 14, 16, and 18 (of the provisional patent application) to be the amino terminal domain, repeat domain, and carboxy terminal domain of CA125 and discloses the nucleic acid sequences encoding those protein sequences. Together those protein sequences make up residues 10,432-22,152 of SEQ ID NO: 5 as is recited in claim 27. It also discloses expressing fragments of these sequences to produce recombinant polypeptides. Pages 6-7 of provisional patent application serial no. 60/299,380 disclose isolated nucleic acids and fragments of the nucleic acids isolated, and expressing isolated nucleic acids from vectors. Page 2, first line of the Summary of provisional patent application serial no. 60/299,380 discloses isolating portions of the CA125 gene. Page 3, lines 5-10 and page 4, line 3 of provisional patent application serial no. 60/299,380 discloses use of recombinant domains, such as individual repeat units, of CA125. Page 3, lines 11-18 of provisional patent application serial no. 60/299,380 discloses recombinant domains of CA 125 encompassing epitope binding

sites for murine antibodies, and use of the recombinant molecules as vaccines or to stimulate patients' immune systems. Thus, Applicant was in possession of more of the CA 125 protein and nucleic acid sequence than is disclosed by Yin and Lloyd before the publication of Yin and Lloyd, and had constructively reduced to practice with the provisional patent application isolated nucleic acids expressing these sequences and fragments of them before the publication date of Yin and Lloyd.

Applicants' arguments have been considered, but have not been found persuasive because Yin and Lloyd is a statutory bar as the priority date of claim 27 is November 15, 2002 because the full scope of the claim encompasses a nucleic acid molecule comprising SEQ ID NO: 4 as set forth above. Thus, because a statutory bar cannot be sworn back of, or before applicant's date of invention, Applicants arguments are not found persuasive. Additionally, although SEQ ID NOS:34, 36, and 38 may make residues 10,432-22,152 of SEQ ID NO:5, these individual polypeptides do not provide support for the genus of claimed nucleic acids encoding or adapted to express the specifically claimed residues of SEQ ID NO: 5 or fragments thereof.

Applicants argue that Yin and Lloyd (J. Biol. Chem., July 20, 2001, 276:27371-27375) states that the authors isolated a 5797-base pair sequence containing a stop codon but no clear 5' initiation sequence (abstract). And it is dated July 20, 2001. Applicants must point out, though, that the alignment the Examiner shows, is with Genbank locus AF361486, which is 21,112 bp (not 5797 bp) and states that it was updated on Sept. 8, 2003.

Applicants argue that they previously submitted the revision history of AF361486 and AF361486 version 1 GI: 14971109. The revision history shows that version GI: 14971109 is the earliest version of AF361486 and was submitted on July 20, 2001. In the version submitted on

July 20, 2001, AF361486 only had 5797 nucleotides, the same as Yin and Lloyd. The next revision of AF361486 was on Aug. 26, 2003. Version GI: 14971109 encodes an 1890-amino-acid protein that is homologous to the carboxy terminal 1890 amino acid residues of the present SEQ ID NO:5 and appears to be the protein sequence disclosed in Yin and Lloyd. The 21,112 bp sequence of the present AF361486 was only submitted on September 8, 2003. Thus, the alignment the Examiner has used to reject claim 27 is not with the disclosure of Yin and Lloyd on July 21, 2001, but is with a Genbank submission made on September 8, 2003, long after the priority date of claim 27.

Applicants argue that the Examiner has chosen to simply ignore these facts, and states wrongly that the publication date of the updated AF3616486 that he uses for alignment is July 20, 2001, rather than its actual publication date of September 8, 2003 (page 13 of the Office Action mailed August 8, 2008). Thus, Yin and Lloyd does not anticipate any of the present claims.

Applicants argument have been considered, but have not been found persuasive because the earliest version of AF361486 of Yin and Lloyd (J. Biol. Chem., July 20, 2001, 276:27371-27375) submitted on July 20, 2001 aligns with an extensive portion of the region of SEQ ID NO: 4 that encodes residues 10,432 to 22,152 of SEQ ID NO: 5, see Appendix 1 (AF414442.2 is the published CA125 sequence). Thus given that the priority date of claim 27 is November 15, 2002, Yin and Lloyd anticipate claim 27.

6. Claim 27 remains rejected, now under 35 U.S.C. 102(a), as being anticipated by O'Brien et al. (Tumor Biology 2001 Nov-Dec; 22(6):348-366, IDS item) as evidenced by

O'Brien et al. (Tumor Biology 2002 May-Jun; 23(3):154-169, IDS item) for the reasons previously set forth in section 8-pages 14-15 of the Office Action of August 8, 2008.

Examiner argued:

O'Brien et al. (2001) teach cloning a CA125 repeat domain into an expressing vector and expressing it in cells, see para. bridging page 349-350, and Fig. 4 and 5. O'Brien et al. (2002) teach that the repeat domains are with residues 10,432-22,152 of CA125, see Fig. 7.

Although the reference does not specifically state that the isolated CA125 nucleotide fragment can be used to make monoclonal antibodies that specifically recognize CA125, the claimed product appears to be the same as the prior art product, absent a showing of unobvious differences. The office does not have the facilities and resources to provide the factual evidence needed in order to establish that the product of the prior art does not possess the same material, structural and functional characteristics of the claimed product. In the absence of evidence to the contrary, the burden is on the applicant to prove that the claimed product is different from those taught by the prior art and to establish patentable differences. See In re Best 562F.2d 1252, 195 USPQ 430 (CCPA).

Applicants argue that as demonstrated above, claim 27 is fully supported by parent application serial no. 09/965,738, filed September 27, 2001, before the publication dates of either of the O'Brien et al. references cited.

Applicants arguments have been considered, but have not bee found persuasive because as set forth above the priority date of claim 27 is November 15, 2002. As the earliest public availability date O'Brien et al. appears to be January 23, 2002, see Appendix 2, the rejection is now under 102(a).

7. Claims 21, 22, and 28 remain rejected and claim 30 is rejected under 35 U.S.C. 102(b) and claim 27 is rejected under 35 U.S.C. 102(e) as being anticipated by WO 2002/68579 (Venter et al. 6 September 2002, publication date, 10 January 2001 priority date) for the reasons previously set forth in section 9-pages 14-15 of the Office Action of August 8, 2008.

Examiner Argued:

Venter et al. teach isolated nucleic acids encoding fragments of residues 1-10,427 and 10-432 to 22, 152, see Appendix 2.

Venter et al. teach placing the isolated nucleic acids of the invention into vectors, see p. 18, lines 4-15. Venter et al. teach vectors with promoters that modulate the expression of an operably linked sequence, see page 32, lines 1-26. Venter et al. teach producing proteins with the isolated nucleic acids of the invention, see p. 10 lines 18-30 and page 34, lines 1-8. One of skill in the art would immediately recognize vectors with promoters that modulate the expression of an operably linked sequence as an expression vector to be used for the expression and production of proteins from the isolated sequences.

Although the reference does not specifically state that the isolated CA125 nucleotide fragment can be used to make monoclonal antibodies that specifically recognize CA125/SEQ ID NO: 5, the claimed product appears to be the same as the prior art product, absent a showing of unobvious differences. The office does not have the facilities and resources to provide the factual evidence needed in order to establish that the product of the prior art does not possess the same material, structural and functional characteristics of the claimed product. In the absence of evidence to the contrary, the burden is on the applicant to prove that the claimed product is different from those taught by the prior art and to establish patentable differences. See In re Best 562F.2d 1252, 195 USPQ 430 (CCPA).

Applicants argue that as demonstrated above, claim 27 is fully supported by parent application serial no. 09/965,738, filed September 27, 2001, and claims 2, 21, 22, and 28-30 are fully supported by parent international application no. PCT/US02/11734, filed April 12, 2002. These dates are before 6 September 2002, so WO 2002/68579 is not prior art to any of the present claims.

Applicants' arguments have been considered, but have not been found persuasive because, as set forth above, the priority date is 11/17/2003 for claims 21, 22, 28 and 30 and he priority date for claims 27 is November 15, 2002. Thus WO 2002/68579 is prior art for these claims.

8. Claim 27 remains rejected under 35 U.S.C. 102(b) as being anticipated by WO 2001/51513 (Algate et al. 19 July 2001) for the reasons set forth in section 10-pages 15-16 of the Office Action of August 8, 2008.

Examiner Argued that

Algate et al. teach isolated nucleic acids encoding fragments of residues 10,432 to 22, 152, see Appendix 3. Algate et al. teach putting the nucleic acids of the invention into expression vectors encoding the polypeptides in host cells, see page 2, lines 11-15.

Although the reference does not specifically state that the isolated CA125 nucleotide fragment can be used to make monoclonal antibodies that specifically recognize CA125, the claimed product appears to be the same as the prior art product, absent a showing of unobvious differences. The office does not have the facilities and resources to provide the factual evidence needed in order to establish that the product of the prior art does not possess the same material, structural and functional characteristics of the claimed product. In the absence of evidence to the contrary, the burden is on the applicant to prove that the claimed product is different from those taught by the prior art and to establish patentable differences. See In re Best 562F.2d 1252, 195 USPQ 430 (CCPA).

Applicants argue that the Examiner cites only page 2, lines 11-15 of Algate, which states that the invention provides polynucleotides that encode a polypeptide and expression vectors. It does not disclose any amino acid or nucleotide sequence. In Appendix 3 of the Office Action, the Examiner shows an alignment of a nucleic acid showing that it encodes a polypeptide homologous to amino acid residues 21897 to 22065 of SEQ ID NO: 5. (The numbering on the upper line of Appendix 3 is 2747 to 2914, but the amino acid residues are actually residues 21898 to 22065 of SEQ ID NO: 5.) The Examiner does not cite the page or line number or SEQ ID NO where the nucleic acid sequence shown in Appendix 3 allegedly appears in Algate.

Applicants argue that the Examiner has the initial burden to establish the basis for an anticipation rejection under 35 U.S.C. § 102. The Examiner must point with particularity to where the reference discloses information that anticipates the invention. "[I]t is incumbent upon the Patent Office... to set forth clearly why it regards a claim to be anticipated ...." In re Mullin, 481 F.2d 133, 1336, 179 U.S.P.Q. 97, 100 (Ct. Customs & Pat. Appeals 1973). Here the Examiner has not met this burden. He has made a bare assertion that Algate discloses some nucleic acid sequence that is shown as encoding a polypeptide homologous with residues in SEQ

ID NO: 5 in Appendix 3 of the Office Action mailed August 8, 2008. He has not cited where in Algate this sequence is allegedly disclosed. Accordingly, the rejection must be withdrawn.

Applicants' arguments have been considered, but have not been found persuasive because Appendix 3 clearly points to SEQ ID NO: 1287, which can be found on page 238 of Algate in the sequence listing.

Applicants argue that if the sequence shown in Appendix 3 of the Office Action is actually disclosed in Algate, it encodes a protein sequence homologous to residues 21898 to 22065 of SEQ ID NO:5. This sequence is also disclosed in the priority U.S. provisional patent application no. 60/299,380, which was filed June 19, 2001. As is discussed above, U.S. provisional patent application no. 60/299,380 discloses nucleic acids encoding residues 10,432-22,152 of SEQ ID NO: 5, and expression vectors encoding and expressing that protein sequence and fragments thereof. Thus, it establishes" priority with respect to so much of the claimed invention as the reference happens to show"2 and therefore removes Algate as prior art under 35 U.S.C. § 102(a) as well as 35 U.S.C. § 102(b).

Applicants argue that in addition, a Declaration under 37 C.F.R. § 1.131 by the Applicants is submitted herewith, which establishes reduction to practice of so much of the invention as is alleged to be disclosed by Algate before the filing date of Algate of January 16, 2001. The Rule 131 Declaration is accompanied by an Invention Disclosure form and laboratory notebook pages dated before January 16, 2001 that establish the Applicants were in possession of and had reduced to practice in the United States before January 16, 2001, recombinant nucleic acids encoding residues 21898 to 22065 of SEQ ID NO:5 and surrounding sequences; and we were in possession of and had reduced to practice in the United States before January 16, 2001,

an expression vector that expressed a recombinant fragment of CA125 that was recognized by a monoclonal antibody (M 11) that recognizes CA125 and therefore could by used to make monoclonal antibodies that specifically recognize CA125. (Rule 131 Declaration, paragraph 8).

Applicants' arguments have been considered, but have not been found persuasive because Algate is a statutory bar as the priority date of claim 27 is November 15, 2002 because the full scope of the claim encompasses a nucleic acid molecule comprising SEQ ID NO: 4 as set forth above. Thus, because a statutory bar cannot be sworn back of, or before applicant's date of invention, Applicants' arguments are not found persuasive, see MPEP 715.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 2, 21, 22, 27, 28, and 29 remain provisionally rejected and claim 30 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being

unpatentable over claim 48-50 and 52-55 of copending Application No. 11/975,668 in view of in view of US Patent No. 4,889,806 and Sambrook et al (Molecular Cloning, A Laboratory Manual, Cold Spring Harbor, 1989, p. 16.3-36) for the reasons set forth in section 11-pages 16-18 of the Office Action of August 8, 2008.

Examiner argued:

Claims 48-50 and 52-55 of Application No. 11/975, 668 are drawn to are drawn to a an isolated nucleic acid encoding a polypeptide comprising a fragment of CA125 (SEQ ID NO:315) selected from the group consisting of: (i) residues 1-1637 of SEQ ID NO:299 and an antigenic fragment of residues 1-1637 of SEQ ID NO:299; (ii) a repeat unit selected from repeat units 1-63 of Table 16; (iii) SEQ ID NOS: 164-191,195-208, 210-220, 222-225,227-247, 250-254, 256-276, and 278-293, ; and (iv) SEQ ID NO:300. The isolated nucleic acid of claim 50 wherein the nucleic acid encodes a polypeptide comprising SEQ ID NO:315. An isolated nucleic acid encoding a polypeptide comprising CA 125 (SEQ ID NO: 315) or a fragment thereof; wherein the polypeptide comprises residues 1-10,427 of SEQ ID NO: 310 or an antigenic fragment of residues 1-10,427 of SEQ ID NO: 310.

It is noted that SEQ ID NO: 315 of 11/975,668 is the full length CA125 protein which is identical to the full length CA125/ SEQ ID NO: 5 of the instant application and SEQ ID NO: 314 11/975,668 is identical to SEQ ID NO: 4 of the instant application. Thus, SEQ ID NO: 4 is clearly contemplated as a polynucleotide encoding the CA125 protein.

US Patent No. 4,889,806 teach that with the advent of recombinant DNA and molecular cloning technology it is now conventional to transfer genetic information into plasmids or vectors constructed in vitro and then transferred into host cells to be clonally propagated (col 1, lines 18-24).

Sambrook et al teach that cloned genes are conventionally expressed using expression vectors and that expression of cloned proteins have been used to: (1) confirm the identity of a cloned gene by using immunological or functional assays to detect the encoded protein; (2) produce large amounts of proteins of biological interest that are normally available in only limited quantities from natural sources; (3) to study the biosynthesis and intracellular transport of proteins following their expression in various cell types; and (4) to elucidate structure-function relationships by analyzing the properties of normal and mutant proteins (para bridging pages 16.3 and 16.4).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to put the CA125 nucleic acids of copending Application No. 11/975, 668 in expression vectors as taught by Sambrook et al and US Patent No. 4,889,806 because US Patent No. 4,889,806 specifically teaches that it is conventional to transfer genetic materials into plasmids or vectors and then transfer the plasmids or vectors into host cells and clonally propagate the genetic material and because Sambrook et al teach that cloned genes are conventionally expressed using expression vectors. One of ordinary skill in the art at the time the invention was made would have been motivated to put the sequences of U.S. Patent No. 6,

261,836 in plasmid vectors operably linked to promoters as Sambrook et al and US Patent No. 4,889,806 because Sambrook et al specifically teach that expressed cloned proteins are used to: (1) confirm the identity of a cloned gene by using immunological or functional assays to detect the encoded protein; (2) produce large amounts of proteins of biological interest that are normally available in only limited quantities from natural sources; (3) to study the biosynthesis and intracellular transport of proteins following their expression in various cell types; and (4) to elucidate structure-function relationships by analyzing the properties of normal and mutant proteins.

This is a provisional obviousness-type double patenting rejection.

Applicants argue that this is a provisional rejection. It is inapplicable unless the claims of copending application no. 11/975,668 issue before the claims of the present application. Applicants argue that will address the rejection upon notice of allowance of the claims in copending application no. 11/975,668.

Applicants' arguments have been considered, but have not been found persuasive because the conflicting claims remain in copending application no. 11/975,668 and no terminal disclaimer has been filed in either application.

10. All other objections and rejections recited in of the Office Action of August 8, 2008 are withdrawn.

11. No claims allowed.

12. This action is a **final rejection** and is intended to close the prosecution of this application. Applicant's reply under 37 CFR 1.113 to this action is limited either to an appeal to the Board of Patent Appeals and Interferences or to an amendment complying with the requirements set forth below.

If applicant should desire to appeal any rejection made by the examiner, a Notice of Appeal must be filed within the period for reply identifying the rejected claim or claims appealed. The Notice of Appeal must be accompanied by the required appeal fee.

If applicant should desire to file an amendment, entry of a proposed amendment after final rejection cannot be made as a matter of right unless it merely cancels claims or complies with a formal requirement made earlier. Amendments touching the merits of the application which otherwise might not be proper may be admitted upon a showing a good and sufficient reasons why they are necessary and why they were not presented earlier.

A reply under 37 CFR 1.113 to a final rejection must include the appeal form, or cancellation of, each rejected claim. The filing of an amendment after final rejection, whether or not it is entered, does not stop the running of the statutory period for reply to the final rejection unless the examiner holds the claims to be in condition for allowance. Accordingly, if a Notice of Appeal has not been filed properly within the period for reply, or any extension of this period obtained under either 37 CFR 1.136(a) or (b), the application will become abandoned.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 C.F.R., 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R., 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J. Reddig whose telephone number is (571) 272-9031. The examiner can normally be reached on M-F 8:30 a.m.-5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Helms can be reached on (571) 272-0832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Peter J. Reddig
Examiner
Art Unit 1642

/Karen A Canella/

Primary Examiner, Art Unit 1643

Appendix 1

AF361486.1 Homo sapiens mucin 16 (MUC16) mRNA, partial cds
aligned with gb|AF414442.2| Homo sapiens ovarian cancer related tumor marker CA125 mRNA, complete cds

Sort alignments for this subject sequence by: E value Score Percent identity
Query start position Subject start position

Score = 1.032e+04 bits (5590), Expect = 0.0
Identities = 5690/5760 (98%), Gaps = 6/5760 (0%)
Strand=Plus/Plus

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Query  19     CCTGGACTGGACAGAGAGCGGCTATACTGGGAGCTGAGCCAGCTGACCAACAGCATCACA  78
              ||||||||| |||| |||| ||| |||||||||||| ||||| ||||||||   ||||
Sbjct  61009  CCTGGACTGNACAGNGAGCNGCTNTACTGGGAGCTNAGCCANCTGACCAANNNCATCNNN  61068

Query  79     GAGCTGGGACCCTACACCCTGGATAGGGACAGTCTCTATGTCAATGGCTTCAACCC-TTG  137
              |||||||||||||||||||| ||| |||||||||||||||||| ||| |||| |
Sbjct  61069  GAGCTGGGNCCCTACACCCTGGACAGGNACAGTCTCTATGTCAATGGTTTC-ACCCATCN  61127

Query  138    GAGGTCTGTGCCAACCACCAGCACTCCTGGGACCTCCACAGTGCACCT-GGCAACCTCTG  196
              || ||||| ||| ||||||||||||||||||||||||||||||||| | || ||||| |
Sbjct  61128  GANCTCTGNGCCCACCACCAGCACTCCTGGGACCTCCACAGTGNACNTNGG-NACCTCNG  61186

Query  197    GGACTCCATCCTCCCTGCCTGGCCACACAGCCCCTGTCCCTCTCTTGATACCATTCACCC  256
              |||||||||||| | ||  ||| ||||||||||||||||||||||||||||||||||||
Sbjct  61187  GGACTCCATCCTCCNTCCCCNGCCNCACAGCCCCTGTCCCTCTCTTGATACCATTCACCC  61246

Query  257    TCAACTTTACCATCACCAACCTGCATTATGAAGAAAACATGCAACACCCTGGTTCCAGGA  316
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  61247  TCAACTTTACCATCACCAACCTGCATTATGAAGAAAACATGCAACACCCTGGTTCCAGGA  61306

Query  317    AGTTCAACACCACGGAGAGGGTTCTGCAGGGTCTGCTCAAGCCCTTGTTCAAGAGCACCA  376
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  61307  AGTTCAACACCACGGAGAGGGTTCTGCAGGGTCTGCTCAAGCCCTTGTTCAAGAGCACCA  61366

Query  377    GCGTTGGGCCCTCTGTACTCTGGCTGCAGACTGACCTTGCTCAGACCTGAGAAACATGGGG  436
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  61367  GCGTTGGGCCCTCTGTACTCTGGCTGCAGACTGACCTTGCTCAGACCTGAGAAACATGGGG  61426

Query  437    CAGCCACTGGAGTGGACGCCATCTGCACCCTCCGGCCTTGATCCCACTGGTCCTGGACTGG  496
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  61427  CAGCCACTGGAGTGGACGCCATCTGCACCCTCCGGCCTTGATCCCACTGGTCCTGGACTGG  61486

Query  497    ACAGAGAGCGGCTATACTGGGAGCTGAGCCAGCTGACCAACAGCGTTACAGAGCTGGGCC  556
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  61487  ACAGAGAGCGGCTATACTGGGAGCTGAGCCAGCTGACCAACAGCGTTACAGAGCTGGGCC  61546

Query  557    CCTACACCCTGGACAGGGACAGTCTCTATGTCAATGGCTTCACCCATCGGAGCTCTGTGC  616
              |||||||||||||||||||||||||||||||||||||||||| ||||||||||||||||||
Sbjct  61547  CCTACACCCTGGACAGGGACAGTCTCTATGTCAATGGCTTCACCCAGCGGAGCTCTGTGC  61606

Query  617    CAACCACCAGTATTCCTGGGACCTCTGCAGTGCACCTGGAAACCTCTGGGACTCCAGCCT  676
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  61607  CAACCACCAGTATTCCTGGGACCTCTGCAGTGCACCTGGAAACCTCTGGGACTCCAGCCT  61666

Query  677    CCCTCCCTGGCCACACAGCCCCTGGCCCTCTCCTGGTGCCATTCACCCTCAACTTCACTA  736
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct  61667  CCCTCCCTGGCCACACAGCCCCTGGCCCTCTCCTGGTGCCATTCACCCTCAACTTCACTA  61726

Query  737    TCACCAACCTGCAGTATGAGGAGCACATGCGTCACCCTGGTTCCAGGAAGTTCAACACCA  796
              ||||||||||||||| ||||||||||||||||||||||||||||||||||||||||||||
Sbjct  61727  TCACCAACCTGCAGTATGAGGTGGACATGCGTCACCCTGGTTCCAGGAAGTTCAACACCA  61786

Query  797    CGGAGAGAGTCCTGCAGGGTCTGCTCAAGCCCTTGTTCAAGAGCACCAGTGTTGGCCCTC  856
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Sbjct  61787  CGGAGAGAGTCCTGCAGGGTCTGCTCAAGCCCTTGTTCAAGAGCACCAGTGTTGGCCCTC  61846

Query    857  TGTACTCTGGCTCCAGACTGACCTTGCTCAGGCCTGAAAAACCTGCGCCACGCCACCCGCG   916

Sbjct  61847  TGTACTCTGGCTCCAGACTGACCTTGCTCAGGCCTGAAAAACCTGGGGCGAGCCACCGGCG  61906

Query    917  TGGACACCATCTGCACTCACCGCCTTGACCCTCTAAACCCTGGACTGGACAGACAGCAGC   976

Sbjct  61907  TGGACACCATCTGCACTCACCGCCTTGACCCTCTAAACCCTGGACTGGACAGACAGCACC  61966

Query    977  TATACTGGCAGCTGAGCAAACTGACCCGTGGCATCATCGAGCTGGGCCCCTACCTCCTGG  1036

Sbjct  61967  TATACTGGCAGCTGAGCAAACTGACCCGTGGCATCATCGAGCTGGGCCCCTACCTCCTGG  62026

Query   1037  ACAGAGGCAGTCTCTATGTCAATGGTTTCACCCATCGGAACTTTGTGCCCATCACCAGCA  1096

Sbjct  62027  ACAGAGGCAGTCTCTATGTCAATGGTTTCACCCATCGGAACTTTGTGCCCATCACCAGCA  62086

Query   1097  CTCCTGGGACCTCCACAGTACACCTAGGAACCTCTGAAACTCCATCCTCCCTACCTAGAC  1156

Sbjct  62087  CTCCTGGGACCTCCACAGTACACCTAGGAACCTCTGAAACTCCATCCTCCCTACCTAGAC  62146

Query   1157  CCATAGTGCCTGGCCCTCTCCTGGTGCCATTCACCCTCAACTTCACCATCACCAACTTGC  1216

Sbjct  62147  CCATAGTGCCTGGCCCTCTCCTGGTGCCATTCACCCTCAACTTCACCATCACCAACTTGC  62206

Query   1217  AGTATGAGGAGGCCATGCGACACCCTGGCTCCAGCAAGTTCAATACCACGGAGAGGGTCC  1276

Sbjct  62207  AGTATGAGGAGGCCATGCGACACCCTGGCTCCAGCAAGTTCAATACCACGGAGAGGGTCC  62266

Query   1277  TACAGGGTCTGCTCAGGCCCTTGTTCAAGAATACCAGTATCGGCCCTCTGTACTCCAGCT  1336

Sbjct  62267  TACAGGGTCTGCTCAGGCCCTTGTTCAAGAATACCAGTATCGGCCCTCTGTACTCCAGCT  62326

Query   1337  GCAGACTGACCTTGCTCAGGCCAGAGAAGGACAAGGCAGCCACCAGAGTGGATGCCATCT  1396

Sbjct  62327  GCAGACTGACCTTGCTCAGGCCAGAGAAGGACAAGGCAGCCACCAGAGTGGATGCCATCT  62386

Query   1397  GTACCCACCACCCTGACCCTCAAACCCTGGACTGAACAGAGAGCAGCTGTACTGGGAGC  1456

Sbjct  62387  GTACCCACCACCCTGACCCTCAAAGCCCTGGACTGAACAGAGAGCAGCTGTACTGGGAGC  62446

Query   1457  TGAGCCAGCTGACCCACGGCATCACTGAGCTGGGCCCCTACACCCTGGACAGGGACAGTC  1516

Sbjct  62447  TGAGCCAGCTGACCCACGGCATCACTGAGCTGGGCCCCTACACCCTGGACAGGGACAGTC  62506

Query   1517  TCTATGTCGATGGTTTCACTCATTGGAGCCCCATACCAACCACCAGCACTCCTGGGACCT  1576

Sbjct  62507  TCTATGTCGATGGTTTCACTCATTGGAGCCCCATACCGACCACCAGCACTCCTGGGACCT  62566

Query   1577  CCATAGTGAACCTGGGAACCTCTGGGATCCCACCTTCCCTCCCTGAAACTACAGCCACCG  1636

Sbjct  62567  CCATAGTGAACCTGGGAACCTCTGGGATCCCACCTTCCCTCCCTGAAACTACANCNNCTG  62626

Query   1637  GCCCTCTCCTGGTGCCATTCACAC-TCAACTTCACCATCACTAACCTACAGTATGAGGAG  1695

Sbjct  62627  NCCCTCTCCTGNTNCCNTTCAC-CNTCAACTTNACCATCACCAACCTGCANTANGNGGAN  62685

Query   1696  AACATGGGTCACCCTGGCTCCAGGAAGTTCAACATCACGGAGAGTGTTCTGCAGGGTCTG  1755

Sbjct  62686  NACATGCNNCNCCCNGGNTCCAGGAAGTTCAACACCACNGAGAGGGTCTGCAGGGTCTG  62745

Query   1756  CTCAAGCCCTTGTTCAAGAGCACCAGTGTTGGCCCTCTGTATTCTGGCTGCAGACTGACC  1815

Sbjct  62746  CTCAAGCCCTTGTTCAAGAGCACCAGTGTTGGCCCTCTGTATTCTGGCTGCAGACTGACC  62805
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Query  1936  ACCCACAGCATCACTGAGCTGGGACCCTACACCCTGGATAGGGACAGTCTCTATGTCAAT  1995
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Query  2836   GACAGAGACGAGCTATACTCGGAGCTGAGCCACCTAACCCACAGCATCACTGAGCTGGGC  2895
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Query  3736   ACCCACCGCCCTGACCCCACAGGCCCTGGGCTGGACAGAGAGCAGCTGTATTTGGAGCTG  3795
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Sbjct  64726  ACCCACCGCCCTGACCCCACAGGCCCTGGGCTGGACAGAGAGCAGCTGTATTTGGAGCTG  64785

Query  3796   AGCCAGCTGACCCACAGCATCACTGAGCTGGGCCCCTACACACTGGACAGGGACAGTCTC  3855
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Sbjct  64786  AGCCAGCTGACCCACAGCATCACTGAGCTGGGCCCCTACACACTGGACAGGGACAGTCTC  64845

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Query   3976  CAACCCGCCTCCCTCAAGTTCAACATCACAGACAACGTCATGCAGCCACCTGCTCAGTCCT   4035
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Query   4036  TTGTTCCAGAGGAGCAGCCTGGGTGCACGGTACACAGGCTGCAGGGTCATCGCACTAAGG   4095
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Query   5056  CATGTGACAGAAATGGAGTCATCAGTTTATCAACCAACAAGCAGCTCCAGCACCCAGCAC   5115

Sbjct  66046  CATGTGACAGAAATGGAGTCATCAGTTTATCAACCAACAAGCAGCTCCAGCACCCAGCAC  66105

Query   5116  TTCTACCCGAATTTCACCATCACCAACCTACCATATTCCCAGGACAAAGCCCAGCCAGGC   5175

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Query   5656  CTGGAGGATCTGCAATGACTGGAACTTGCCGGTGCCTGGGGTGCCTTTCCCCCAGCCAGG   5715

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